1: McGee E-3 (1894-1895)1895 NU31 Seri NU31

extreme lightness in proportion to capacity, a quality due to the spongy character of the torote coil and to the thinness of the splints used in the woof. The inside dimensions, weight, and dry-measure capacity (filled to the level of the brim with rice) of two typical specimens approaching extremes in size are indicated in the accompanying table. As noted elsewhere, the ware is absolutely without decorative devices in weave, paint, or form; it is baldly utilitarian, a model of economy in material and in the balance between structure and function, approaching in this respect the thin-walled canteen-olla, the graceful balsa, and the light but effective harpoon. The structural correspondence of the ware to a widespread type and its limited use among the tribe suggest an acultural origin for the Seri basketry; but the delicate adjustment of means to ends in the manufacture and the strictly local character of the material quite as strongly suggest an indigenous development.

Museum No.	Diameter	Depth	Weight	Capacity
174528	38 cm. (15 in.)	9.5 cm. (3¾ in.)	492 g. (17 oz.)	6.25 l. (6.6 qt.)
174529a ..	23 cm. (9 in.)	5.0 cm. (2 in.)	142 g. (5 oz.)	1 l. (1.06 qt.)

It is impossible to portray justly the food habits of the Seri without some reference to a systematic scatophagy, which seems to possess fiducial as well as economic features. In its simplest aspect this custom is connected with the tuna harvests; the fruits are eaten in enormous quantity, and are imperfectly digested, the hard-coated seeds especially passing through the system unchanged; the feces containing these seeds are preserved with some care, and after the harvest is passed the hoard (desiccated, of course, in the dry climate) is ground between hupf and shat, and winnowed in baskets precisely as are the mesquite beans; and the product is then eaten either dry or in the form of atole like the mesquite meal. In superficial view this food factor is the precise homologue of the "second harvest" of the California Indians as described by Clavigero, Baegert,[1] and others; but it gains importance, among

[1] "An Account of the Aboriginal Inhabitants of the Californian Peninsula, as given by Jacob Baegert, a German Jesuit missionary." . . . Translated and arranged for the Smithsonian Institution by Charles Rau: Ann. Rep. Smithsonian Inst. for 1863, pp. 352-389. Baegert's account of foods (pp. 368-367) is so opposite as to be worthy of quotation nearly entire:

"Notwithstanding the barrenness of the country, a Californian hardly ever dies of hunger, except, perhaps, now and then an individual that falls sick in the wilderness and at a great distance from the mission, for those who are in good health trouble themselves very little about such patients, even if these should happen to be their husbands, wives, or other relations; and a little child that has lost its mother or both parents is also occasionally in danger of starving to death, because in some instances no one will take charge of it, the father being sometimes inhuman enough to abandon his offspring to its fate.

"The food of the Californians, as will be seen, is certainly of a mean quality, yet it keeps them in a healthy condition, and they become strong and grow old in spite of their poor diet. The only period of the year during which the Californians can satisfy their appetite without restraint is the season of the pitahayas, which ripen in the middle of June and abound for more than eight weeks. The gathering of this fruit may be considered as the harvest of the native inhabitants. They can eat as much of it as they please, and with none this food agrees so well that they become corpulent during that period, and for this reason I was sometimes unable to recognize at first sight individuals, otherwise perfectly

1: McGee E-5 (1894-1895)1898 NU31 Seri NU31

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the Seri at least, as the sole method of storing or preserving food-supplies, and hence as the germ of industrial economy out of which a

familiar to me, who visited me after having fed for three or four weeks on these pitahayas. They do not, however, preserve them, and when the season is over they are put again on short rations. Among the roots eaten by the Californians may be mentioned the yuka, which constitutes an important article of food in many parts of America, as, for instance, in the island of Cuba, but is not very abundant in California. In some provinces it is made into a kind of bread or cake, while the Californians, who would find this process too tedious, simply roast the yukas in a fire like potatoes. Another root eaten by the natives is that of the aloe plant, of which there are many kinds in this country. These species of this vegetable, however, which afford nourishment—for not all of them are edible—do not grow as plentifully as the Californians might wish, and very seldom in the neighborhood of water; the preparations, moreover, which are necessary to render this plant suitable for the mouth tire and labor. . . . I saw the natives also frequently eat the roots of the [illegible] reed, just as they were taken out of the water.' Certain seeds, some of them not larger than those of the mustard, and different sorts in pods that grow on shrubs and little trees, and of which there are, according to Father Piccolo, more than sixteen kinds, are likewise diligently sought, yet they furnish only a small quantity of grain, and all that a person can collect with much toil during a whole year may scarcely amount to 12 bushels.

"It can be said that the Californians eat, without exception, all animals they can obtain. Besides the different kinds of larger indigenous quadrupeds and birds, they live nowadays on dogs and cats; horses, asses, and mules; fish, as eels, mice, and rats; lizards and snakes; bats, grasshoppers, and crickets; a kind of green caterpillar without hair, about a finger long, and an abominable white worm of the length and thickness of the thumb, which they find occasionally in old rotten wood, sometimes in a particular delicacy. The chase of game, such as deer and rabbits, furnishes only a small portion of a Californian's provisions. Supposing that for 100 families 100 deer are killed in the course of a year, which is a very favorable estimate, they would supply each family only with three meals in three hundred and sixty-five days, and thus relieve but in a very small degree the hunger and the poverty of these people. The hunting for snakes, lizards, mice, and field-rats, which they practice with great diligence, is by far more profitable and supplies them with a much greater quantity of articles for consumption. Snakes, especially, are a favorite sort of small game, and thousands of them find annually their way into the stomachs of the Californians.

"In catching fish, particularly in the Pacific, which is much richer in that respect than the Gulf of California, the natives use neither nets nor hooks, but a kind of lance—that is, a long, slender, pointed piece of hard wood—which they handle very dexterously in spearing and killing their prey. Sea-turtles are caught in the same manner.

"I have now mentioned the different articles forming the ordinary food of the Californians; but, besides these, they reject nothing that their teeth can chew or their stomachs are capable of digesting, however tasteless or unclean and disgusting it may be. Thus they will eat the leaves of the Indian fig-tree, the tender shoots of certain shrubs, tanned or unbaked leather, old straps of rawhide, with which a house was tied together for years; fleas, the bones of poultry, sheep, goats, and calves; putrid meat or fish swarming with worms, damaged wheat or Indian corn, and many other things of that sort which may serve to appease the hunger they are almost constantly suffering. Anything that is thrown to the dogs will be also accepted by a Californian, and he takes it without feeling offended, or thinking for a moment that he is treated below his dignity. For this reason no one took the trouble to clean the wheat or maize, which was cooked for them in a large kettle, of the black worms and little bugs, even if the numbers of these vermin had been equal to that of the grains. By a daily distribution of about 150 bushels of bran (which they are in the habit of eating without any preparation) I could have induced all my parishioners to remain permanently in the mission, excepting during the time when the pitahayas are gathered.

"I saw one day a blind man, 70 years of age, who was busily engaged in pounding between two stones an old shoe made of raw deerskin, and whenever he had detached a piece he transferred it promptly to his mouth and swallowed it; and yet this man had a daughter and seven grandchildren. As soon as any of the cattle are killed and the hide is spread out on the ground to dry, half a dozen boys or more will instantly rush upon it and commence to work with knives, flints, and their teeth, tearing and scratching off pieces, which they eat immediately, till the hide is full of holes or scattered in all directions. In the mission of St. Ignatius and in others further toward the north there are persons who will attach a piece of meat to a string and swallow it and pull it out again a dozen times in succession, for the sake of prolonging the enjoyment of its taste.

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"I must here ask permission of the kind reader to mention something of an exceedingly disgusting and almost inhuman nature, the like of which probably never has been recorded of any people in the world, but which demonstrates better than anything else the whole extent of the poverty, carelessness, and voracity of these wretched beings. In describing the pitahayas I have already stated that they contain a great many small seeds resembling grains of powder. For some reason unknown to me these seeds are not consumed in the stomach, but pass off in an undigested state, and in order to save them the natives collect during the season of the pitahayas that which is discharged from the

1: McGee E-3 (1894-1895)1898 NU31 Seri NU11

feeble thrift-sense may be regarded as emerging. And the rise of thrift in Scotland, like esthetic and industrial beginnings generally, is shaped

human body, separate the seeds from it, and roast, grind, and eat them, making merry over their herbaceous meals, which the Spaniards therefore call the second harvest of the Californians. [This statement is corroborated in all particulars by Choriguro in his Noticia della California. Venice, 1790, vol. i, p. 157.] When I first heard that cork a filthy habit existed among them I was disinclined to believe the report, but to my utter regret I became afterwards repeatedly a witness to the proceeding, which they are unwilling to abandon, like many other bad practices (probably because of the bestial character of the contents—W J M.). Yet I must say in their favor that they have always abstained from human flesh, contrary to the horrible usage of so many other American nations who can obtain their daily food much easier than these poor Californians.

"They have no other drink but the water, and beware be pained that they are unacquainted with such strong beverages as are distilled in many American provinces from Indian corn, the aloë, and other plants, and which the Americans in these parts merely drink for the purpose of intoxicating themselves. When a Californian encounters during his wanderings a pond or pool, and feels a desire to quench his thirst, he lies flat on the ground and applies his mouth directly to the water. Sometimes the horns of cattle are used as drinking vessels.

"Having thus far given an account of the different articles used as aliment by the aborigines of the peninsula, I will now proceed to describe in what manner they prepare their victuals. They do not cook, boil, or roast like people in civilized countries, because they are neither acquainted with these methods nor possessed of vessels and utensils to employ for such purposes; and, besides, their patience would be found beyond endurance if they had to wait till a piece of meat in well cooked or thoroughly roasted. Their whole process simply consists in burning, singeing, or roasting in an open fire all such victuals as are not eaten in a raw state. Without any formalities, the piece of meat, the fish, bird, snake, field mouse, bat, or whatever it may be is thrown into the flames or on the glowing embers, and left there to smoke and to sweat for about a quarter of an hour; after which the article is withdrawn, in most cases only burned or charred on the outside, but still raw and bloody within. As soon as it has become sufficiently cool, they shake it a little in order to remove the adhering dust or sand, and eat it with great relish. Yet I must add here, that they do not previously take the trouble to skin the mice or disembowel the rats, nor deem it necessary to clean the half-emptied entrails and maws of larger animals, which they have to cut in pieces before they can roast them. Seeds, locusts, grasshoppers, green caterpillars, the white worms already mentioned, and similar things that would be lost, on account of their smallness, in the embers and flames of an open fire, are parched on hot coals, which they constantly throw up and shake in a turtle shell or a kind of frying pan worn out of a certain plant. What they have parched or roasted in this manner is ground to powder between two stones, and eaten in a dry state. Beans are treated in like manner.

"They eat everything unsalted, though they might obtain plenty of salt; but since they cannot dine every day on roast meat and constantly change their quarters, they would find it too cumbersome to carry always a supply of salt with them.

"The [illegible] of the aloë, also called *mescals* or *magney* by the Spaniards, requires more time and [illegible]. The roots, after being properly separated from the plants, are roasted for some hours in a strong fire, and then buried, twelve or twenty together, in the ground, and well covered with hot stones, hot ashes, and earth. In this state they have to remain for twelve or fourteen hours, and when dug out again they are of a fine yellow color, and perfectly tender, making a very palatable dish, which has served me frequently as food when I had nothing else to eat, or as dessert after dinner in lieu of fruit. But they act at first as a purgative on persons who are not accustomed to them, and leave the throat somewhat rough for a few hours afterwards.

"To light a fire the Californians make use of steel and flint, but obtain it by the friction of two pieces of wood. One of these is cylindrical, and pointed on one end, which fits into a round cavity in the other, and by turning the cylindrical piece with great rapidity between their hands, like a twirling stick, they succeed in igniting the lower piece if they continue the process for a sufficient length of time.

"The Californians have no fixed time for any sort of business, and eat, consequently, whenever they have anything, or feel inclined to do so, which is nearly always the case. I never asked one of them whether he was hungry who failed to answer in the affirmative, even if his appearance indicated the contrary. A meal in the middle of the day is the least to see among them, because they all set out early in the morning for their foraging expeditions, and return only in the evening to the place from which they started, if they do not choose some other locality for their night quarters. The day being thus spent in running about and searching for food, they have no time left for preparing a dinner at noon. They start always empty-handed; for if provisions something remains from their evening repasts they certainly eat it during the night in waking moments or on the following morning before leaving. The Californians can endure hunger under and much longer than other people; whereas they will eat enormously if a chance is given. I often tried to buy a piece of venison from them when the skin had but lately been stripped off the deer, but regularly received the answer that nothing was left; and I knew well enough that the hunter who killed the animal needed no assistance

1: McGee E-5 (1894-1895)1898 NU31 Seri NU31

262 by faith and attendant ceremony; for the doubly consumed food is
514 credited with intensified powers and virtues, and held to be specially potent in the relief of hunger and in giving endurance for the hard warpath or prolonged chase; it is—and makes—very strong ("mucho fuerte"), in the laconic and confident explanation of Machém. Incongruous as the custom is to higher culture, it finds natural suggestion in the everyday habits of the tribe, who are wonted not only to the eating of animal entrails in raw and uncleaned condition, but especially to the relief of the sharpest pangs of hunger by means of the soft structures and their semiassimilated contents—an association of much influence in primitive thought. Concordantly with the custom and the faith grown out of it, the excreta in general take a prominent place in the Seri mind; the use of urine in ablution, etc, is little understood and may be passed over; but all bony feces—and it may be noted that the "sign" of the Seri more resembles that of wolves or snake-eating swine than that of men—following gorges of large quarry are customarily located and kept in mind for recourse in time of ensuing shortage, when the mass is ground on the abut and reconsumed; and even the ordinary discharge is preserved during the seasons of less reliable food-supply.

514 There is an obscure connection between this curious and repulsive
764 food custom of the Seri and the mortuary customs of the tribe, which

000 to finish it. Twenty-four pounds of meat in twenty-four hours is all deemed an extraordinary ration for a single person, and to see anything eatable before him is a temptation for a Californian which he cannot resist; and not to make away with it before night would be a victory he is very seldom capable of gaining over himself."

Clavigero's account of the food habits of the California Indians is similar, though generally less explicit. According to him the seeds forming the "second harvest of pitahayas" are extracted carefully with little fresh, and are afterward roasted, ground, and preserved in the form of meal against the ensuing winter. Of the raw-offal habit, he says:

"The savages living in the southern part of the peninsula have found the secret, unknown to mortals in general, to eat and re-eat the same meal repeatedly. They tie a string around a mouthful of meat dried and hardened in the sun. After chewing it for a while they swallow it, leaving the string hanging from the mouth. After two or three minutes, by means of the string they draw the meat up again to be rechewed, and this they repeat as many times as may be necessary until the morsel is consumed or so softened that the string will not hold it any longer. In extracting it from the throat they make such a noise that to one who has not before heard it it appears that they are choking themselves.

"When many individuals are gathered together to eat in this manner it is practised with more ceremony. They seat themselves on the ground, forming a circle of eight or ten persons. One of them takes the mouthful and swallows it, and afterwards draws it up again and passes it to the next one, and this one to another, proceeding thus around the circle with much enjoyment until the morsel is consumed. This has astonished the Spaniards who have seen it, and indeed it would not be credible if it had not been unanimously testified to by all who have been in that country. Several Jesuits who did not believe this, notwithstanding that sincere and prominent persons confirmed it, having afterwards gone to California saw it with their own eyes. Among those Indians who have embraced Christianity this loathsome and dangerous method of eating has been abandoned in consequence of the continual reproofs of the missionaries." (*Historia de la Antigua ó Baja California*, etes postuma del Padre Francisco Javier Clavijero. Mexico, 1852, p. 34.)

171 The records of Clavigero and Burgert indicate fair correspondence in the food habits of the Califor-
262 nia Indians and the Seri, though there are certain noteworthy differences, e. g., the taboo of the badger among the former and of the ground squirrel among the latter. It would also appear that the Californians were the more largely vegetarian and the better advanced in culinary processes. The customs of the Seri throw light on the genesis of "re-eating", for the process would appear to be but an extension of the repeated mumbling and swallowing of tendinous strings still attached to the bones of larger animals.

1: McGee E-5 (1894-1895)1898 NU31 Seri NU31

was not detected until the opportunity for personal inquiry had gone by. About the rancherias on Isla Tiburon, and especially about the extensive house-group at the base of Punta Tormenta, there are burial places marked by cairns of cobbles, or by heaps of thorny brambles where cobbles are not accessible; and most of these cairns and bramble-piles are supplemented by hoards of desiccated feces carefully stored in shells, usually of *Area* (a typical specimen is illustrated in figure 25). The hoards range from 50 to 500 shells in quantity, and there were fully a score of them at Punta Tormenta alone. About the newer rancherias, as at Rada Ballena, where there are no cemeteries, the hoards are simply piled about small clumps of shrubbery. The meaning of the association of the dietetic residua and death in the Seri mind is not wholly clear; yet the connection between the "strong food" for the warpath and the

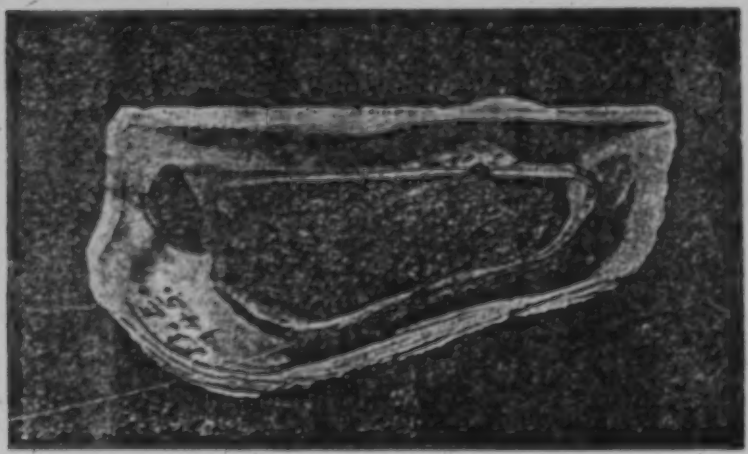

FIG. 25.—Anthropolith supplies.

mystical food for the manes in the long journey to the hereafter is close enough to give some inkling of the meaning.[1]

In recapitulating the food supplies of the Seri it is not without interest to estimate roughly the relative quantities of the several constituents consumed; and the proportions may be made the more readily comprehensible by expression in absolute terms. As a basis for the quantitative estimate, it may be assumed that the average Seri, living, as he does, a vigorous outdoor life, consuming, as he does, a diet of less average nutrition than the selected and cooked foods of higher culture, and attaining, as he does, an exceptional stature and strength, eats something more than the average ration; so that his ration of solid food may be lumped at 2.76 pounds (about 1,250 grams) daily, or 1,000

[1] Cf. Sentiments Rites of all Nations, by Capt. John G. Bourke, 1891, especially chapter II, pp. 439–468. The Seri custom, resting as it does, on an evident economic basis, tends to explain the esthetology of the Hopi and other tribes described by Bourke.

2: Kroeber E-5 (1930)1931 NU31 Seri NU31

The Seri "second harvest" of cactus seeds (p. 209), which Baegert and Clavigero also describe from Lower California (p. 211) is found also among the American Pima,[4] and is therefore likely to have prevailed as far as Cereus fruits were a principal food supply.

The ground-squirrel is not eaten by the Seri, the badger not by the Baja Californiefios (p. 212).

McGee gives a valuable percentage estimate of Seri food composition: land game, large and small (including 6% of stolen stock), 21%; pelicans, other waterfowl, and eggs, 13; sea turtles, 25; fish, 15; shellfish, 10; cactus fruit, 9; other plants, 6; miscellaneous, 2; total animal, 84; maritime, nearly two-thirds. My impression is that clams, other mollusks, and crabs constitute more than a tenth of the total consumption. Clams especially can usually be obtained at low tide when wind and water prevent other food taking. I should also be inclined to raise the proportion of plant food, especially mesquite. The use of agave was almost certainly limited chiefly by the supply. Sealions, porpoises, and occasional whales could perhaps hardly be accounted for under the two percent of miscellaneous. On the other hand, deer are evidently taken only occasionally, and the figure for turtles seems too high, these animals being absent from Seri waters for months in the year and always free-swimming. McGee appears to have over-emphasized the importance of the turtle in Seri thought as well as life. I would incline to estimate the proportion of animal food in native times, before domestic animals could be preyed on, as rather under three-fourths of the total; of maritime, as perhaps three-fifths. Even these figures might be high for the bands primarily resident on the mainland, with free access to the mesquite thickets of the lower Sonora and Bacuachi (Bacavachi) courses, and the countless cactuses.

A double-bladed paddle pictured by the Dewey-Narragansett expedition of 1873 is reproduced by McGee (p. 219, fig. 28) without comment. This type of paddle is established for the Seri, Santa Barbara islanders, and San Francisco Bay Indians; then apparently is lacking until the Eskimo-Aleutian area. Among the Chumash it is native and associated with a plank-built canoe. On San Francisco Bay it was used with the rush balsa, and may or may not be due to Aleutian sea-otter hunters introduced by the Russians. It seems possible that the Seri and Chumash occurrences would prove connected by occasional use in Baja California, if we had fuller data, since some of the natives there went several leagues out into the open sea. We are so accustomed to think of the two-bladed paddle as an adjunct of the specialized kayak, that it too impresses as a complicated device, inappropriate with a simple raft. As a matter of fact, wherever scarcity of wood, or lack of skill and usage in working it,[5] resulted

[4] Russell, BAE-R 26:71, 1908.
[5] Cf. The Valley Nisenan, UC-PAAE, 24:253-290, 1929.

222 forests of giant cacti (Fig. 9) provide during this season an unlimited supply of "pitahayas" toward which the tribespeople customarily moved to accomplish the annual harvest. The fruits were readily knocked down by means of long poles and, when ripe, the spines were easily brushed off, leaving a luscious pulp as big as a fig. During the height of the season all the clans withdrew from the coast and gave their undivided attention to the collection and consumption of the cactus fruit, gorging tremendous quantities for weeks until waning supply and cloying appetite drove them back to the more severe hunt for turtle and pelican.

252 Perhaps the only germ of thriftiness in the
262 Seris is shown by a peculiar custom with
514 respect to the pitahayas. The fruits, eaten in such enormous quantity, were imperfectly digested, the hard-coated seeds particularly passing through the body unchanged. Using
[445] large seashells, the feces containing these
[251] seeds were collected and preserved with some care. Thus, when the harvest of fresh fruits was over, there remained a hoard of these dry, nutritious discharges which were ground on the stone abat, winnowed in a shallow basket and made into a meal to be eaten, either dry, as a watery atole, or mixed with turtle grease to form a thick paste.

614 Although the Seri's omnipresent problems of food-getting and of personal subsistence have been of particular interest, the lost social customs of the tribe deserve a moment's attention. Before the death of all
[161] but a few of the 2,000–3,000 Seris at the hands of invading Spaniard and Mexican, the tribe consisted of a number of conspicuous maternal clans, each of which was presided over by a zoic tutelary such as the Pelican, the Turtle, the Rattlesnake, or the Badger. The totemic symbols denoting the
202 various beast-gods and incidentally indicat-
386 ing the blood-carriers of clans dedicated to
614 them, consisted of elaborate designs painted upon the face (Fig. 10). In accord with their savagery in which the social organization was based on blood kinship reckoned in the female line, under ordinary circumstances, the faces only of the females were painted. Colored minerals pounded to powder afforded the pigments for the paint-

[p. 201(A)]

5:Dawson N-5 (1940) 1944 NU31 Seri NU31

ingenuity of a modern shipbuilder to have constructed a boat. These simple, desert people, however, through centuries of struggle for life in their desolate realm had learned to use every natural material available to them, however laborious the tasks and inefficient the products. The carrizal reed, *Phragmites communis*, grows about the few permanent water holes of Seriland, and from countless numbers of these slender, buoyant canes they built their watercraft. The reeds were stripped of leaves and gathered in long bundles, bound together and gradually augmented by more and more interlaced canes until a bundle 18 to 30 feet long and 1½ feet in diameter, tapering at both ends, was made. Three of these were then bound together with cords of fiber or human hair, making a maneuverable one or two man raft, easily transported to the shores.

The mesquite tree, *Prosopis juliflora*, provided fiber for cords. The flexible outer tissues of the roots were stripped off, soaked and progressively pounded, split and worked between hand and mouth until very slender, fibrous threads were obtained which were then twisted into cords. In some cases a coarse, rough fabric was woven from these fibers, but most garments were made of pelican skins. The strips of workable mesquite root or sometimes yucca fiber were also used in making doughnut-shaped head pads which aided in balancing the capacitous earthen water jars as they were carried on the heads of the women over rough and stony trails from water hole to camp site.

While occupying the turtle fishing camps on El Infiernillo during the good season, vegetable supplements to the fishy diet were few. Every nourishing seed or woody fruit yielded by the desert was carefully gathered; even the tiny seeds of the sea grass, *Ruppia*, were sorted from beach drift and made into meal. Never did the Seris learn to cultivate any crop or domesticate any animals other than the half wild coyote dogs that lived in mutual toleration with them. Even had they done so, their success in the barren, waterless land would have been small.

Sterile as is the Seri's hinterland, for a time each summer the thorny plants with which it is so profusely stocked ripen an abundant crop of fruit. The cacti in particular yield a wonderful harvest of luscious and succulent fruits, and toward this fortuitous supply the Seris were accustomed to move in June and July. The foothills of Sierra Seri on the mainland are adorned with great numbers of giant cacti, *Pachycereus Pringlei*, *Carnegiea gigantea* and *Lemaireocereus Thurberi* from which the luscious pitahayas were readily knocked down when ripe. The Indians wandered into the cactus forest and after a simple ritual marking the beginning of the feast, proceeded to gorge themselves for weeks on the succulent fruit until waning supply and cloying appetite drove them back to more severe food-getting activity by the sea. They did not customarily find it necessary to leave the cactus forest, however, as soon as the supply of fruits was no longer sufficient, for by the time the fruiting season was ended they had provided themselves with a second harvest. The pitahayas, gorged in such tremendous quantity throughout the season, were very imperfectly digested; the miriads of hard seeds, particularly, passed through the system unchanged and with the preservation of these in mind the Indians carefully collected with the aid of large sea shells all such seedy discharges and let them dry in the desert sun. Thus, as the supply of fresh fruit faded they proceeded to the use of this hoard

[TEXT CONTINUES ON P. 136--ANALYST]